

## 4 – Cyberinfrastructure

### Action Item Template Response

#### General Action Item Information

Lead Division/Office: Research Technologies

Action Item Number: 4

Action Item Short Name: Cyberinfrastructure

Dependencies with other EP Action Items: 3a, 5b (tentative numbering)

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#### I. DESCRIBE YOUR PLANS FOR IMPLEMENTING THIS ACTION.

In his inaugural speech, IU President Michael A. McRobbie set a goal for IU to be one of the great public universities of the 21st century. In particular, President McRobbie set out particular goals in research, teaching, and engagement:

"As a great public university we have two fundamental missions: education and research. Indiana University seeks to provide the best possible education to all of our students, both undergraduate and graduate. It is an education in both breadth and depth, grounded in both the practical and the transcendent, and providing a command of the analytical and the expressive. We also seek to conduct path-breaking research and scholarship of the highest international standards from the most theoretical to the most applied. . . .

"We are also a public university supported by and with a responsibility to the citizens of Indiana. They expect us to provide a great education to their sons and daughters; they expect us to do the best research and scholarship; and they expect us to be engaged in the life of the State. Therefore, engagement is a third mission, and it grows out of excellence in education and research."

One can (and should) spend a good bit of time working out one's own views of what it means for IU to be one of the great universities of the 21st century. Any reasonable answer to this must include the following as key goals:

- IU researchers "conduct path-breaking research and scholarship of the highest international standards from the most theoretical to the most applied." And this implies that IU faculty must be among the very best in the world.
- Further, to be a great university IU must also be educating the scholars and researchers of tomorrow, matriculating holders of undergraduate and terminal degrees of the highest intellectual caliber, who are versed in the use of the most advanced research tools available.

The role of research cyberinfrastructure in scientific and engineering progress is now widely acknowledged in enabling important incremental advances in knowledge and in enabling new breakthroughs. In addition, the role of advanced cyberinfrastructure in all forms of scholarship in the humanities is becoming ever more clear, as evidenced by the success of the IU Digital Libraries

Program in enabling scholarship and promoting its wide dissemination. Furthermore, IU artists are daily demonstrating the value and opportunity created by digital capture and distribution of the fine and performing arts. IU's innovation is so far-reaching that we now have visual artists, composers, and sculptors who work in inherently digital media.

If IU is to be a great university, IU must achieve the following:

- Support its existing world-class researchers, artists, engineers, clinicians, and scholars with the best cyberinfrastructure in the nation, and then ensure that the data, research products, artistic works, writings, and graphical depictions that result from their work are widely disseminated and preserved for posterity.
- Provide an environment that attracts to IU the very finest researchers, scholars, and artists.
- Provide the cyberinfrastructure facilities and tools that enable the education of tomorrow's very best researchers, artists, engineers, clinicians, scholars, and informed consumers of information, knowledge, and artistic works.

There are many factors at play in the pursuit of (and often competition for) the most important insights of tomorrow. While there are national facilities available on a competitive basis from federal agencies such as the National Science Foundation and Department of Education, these resources meet a diminishing portion of the national need. It is a plain and simple fact that a world-class research cyberinfrastructure is a competitive asset for IU in empowering its existing research and creative community, and in recruiting the best from elsewhere.

Similarly, the US does not have a proper digital equivalent to the role once played by the Library of Congress - preserving critical data and information for future generations. If we believe that IU scholarship and artistry is important, it is a practical matter incumbent upon us to make the artifacts of this work accessible and preserve them for future generations.

## **II. WHAT ARE THE POLICY AND PRACTICE IMPLICATIONS OF YOUR PLANS?**

This plan simply and richly continues the traditions begun by Marshall Wrubel and accelerated under the leadership of former IU President Myles Brand and current President Michael A. McRobbie. IU astronomer Marshall Wrubel became the first permanent director of the IU Research Computing Center in 1954, and at that time set a policy of open access to IU research computing facilities, making them accessible and available to faculty, staff, and student researchers alike. In 1997, former President Myles Brand presented to then-Vice President McRobbie a goal to make IU a leader in the "uses and applications of information technology - in absolute terms." Most importantly, this plan implements critical advances in IU's research cyberinfrastructure necessary to meet the goal set by President McRobbie for IU to be one of the great universities of the 21st century.

## **III. IDENTIFY STAKEHOLDERS.**

- RT, LT, EI, Networks, all of UITS, OVPIT, PTI
- All IU researchers, humanities scholars, fine and performing artists
- All IU students